

Cyber-Champ™



INSTRUCTION MANUAL

INSTRUCCIONES DE FUNCIONAMIENTO

MODE D'EMPLOI

ISTRUZIONI OPERATIVE

BEDIENUNGSANLEITUNG

操作方法

Fender
www.fender.com

ENGLISH

ESPAÑOL

FRANÇAIS

ITALIANO

DEUTSCH

日本語

Important Safety Instructions



- This symbol warns the user of dangerous voltage levels localized within the enclosure of the unit.



- This symbol advises the user to read all accompanying literature for safe operation of the unit.

- Read, retain, and follow all instructions. Heed all warnings.
- Only connect the electric line cord to an earth grounded AC receptacle in accordance with the voltage and frequency ratings listed under INPUT POWER on the rear panel of this product.
- **WARNING:** To prevent damage, fire or shock hazard, do not expose this unit to rain or moisture.
- Unplug the AC power line cord before cleaning the unit exterior (use a damp cloth only). Wait until the unit is completely dry before reconnecting it to power.
- Maintain at least 6 inches of unobstructed air space behind the unit to allow for proper ventilation and cooling of the unit.
- This product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
- This product may be equipped with a polarized plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of this plug.
- Protect the power cord from being pinched or abraded.
- This product should be serviced by qualified service personnel when: the power supply cord or the plug has been damaged; or objects have fallen, or liquid has been spilled onto the product; or the product has been exposed to rain; or the product does not appear to operate normally or exhibits a marked change in

performance; or the product has been dropped, or the enclosure damaged.

- Only use a cart or stand with this product that is recommended by this product's manufacturer.
- The power supply cord of this product should be unplugged from the outlet when left unused for a long period of time, or during electrical storms.
- Do not drip nor splash liquids, nor place liquid filled containers on the unit.
- **CAUTION:** No user serviceable parts inside, refer servicing to qualified personnel only.
- Fender® amplifiers and loudspeaker systems are capable of producing very high sound pressure levels which may cause temporary or permanent hearing damage. Use care when setting and adjusting volume levels during use.

FCC COMPLIANCE NOTICE

This equipment has been tested and found to comply within the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide a reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not used in accordance with the instructions, may cause harmful interference to radio communications and there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: reorient or relocate the receiving antenna, increase the separation between the equipment and receiver, connect the equipment into an outlet on a circuit different from that of the receiver. Consult the dealer or an experienced radio/TV technician if help is needed.

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 CORONA, CA USA

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Introduction

Your new Cyber-Champ™ amplifier is brought to you by the same Tone-team that created the Fender® Cyber-Twin™ and Cyber-Deluxe™ amplifiers. As the crowning achievements of Fender's most advanced research and development project, Cyber-Series™ amplifiers are endowed with Fender's exclusive **Virtual Tone Interpolation™** technology (patent number 6,222,110). VTI™ technology enables the Cyber-Champ™ amplifier to be different amplifiers according to circuit design. Starting with a virtual circuit board, the Cyber-Champ™ amplifier "rewires" its fundamental architecture to become the essence of some of the amplifier greats — Fender's Blackface™, Dyna-Touch™, Tweed and Modern amps, and even the best of the British amps!

The Cyber-Champ™ amplifier allows you to be the amp designer. Start with one of 14 permanent amp

and effect setups stored within the Cyber-Champ™ amp—twist some knobs, make some changes, then save to one of the 7 *rewritable* preset locations reserved onboard for your original amplifier designs. MIDI implementation on the Cyber-Champ™ amplifier enables you to transfer presets to and from the amp for backup to a PC, or for exchange with other Cyber-Champ™ amplifier players.

The Cyber-Champ™ amplifier also puts a huge array of studio-quality effects at your command: Reverb, Modulation and Delay effects, enough to satisfy most any sonic appetite. And many are in *stereo*, so you can use the headphones jack to enjoy a fully ambient stereo dimension. The Cyber-Champ™ amplifier's Dyna-Touch™ power amp circuitry and Celestion® speaker deliver powerful, responsive Tone to you and your audience. *It's not just loud "on paper."*

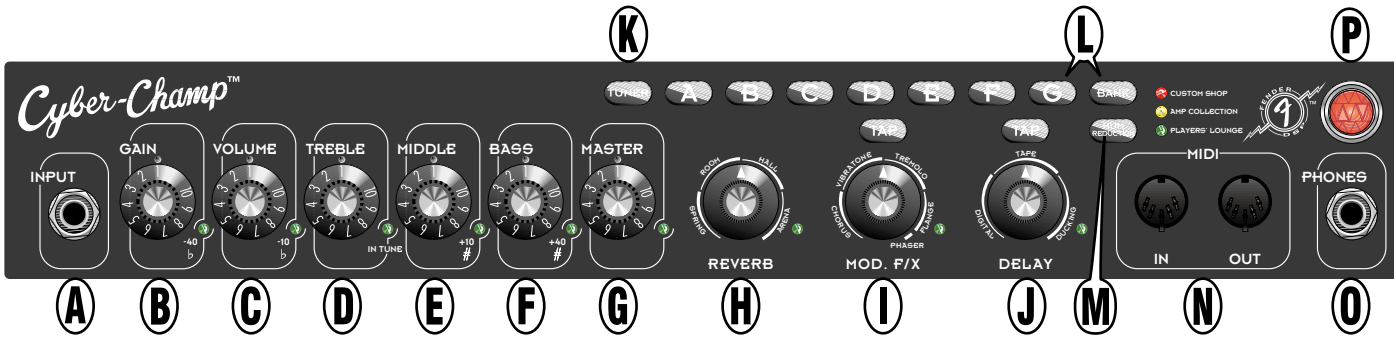
Features

- 21 Amp Design presets selectable using the Preset and Bank buttons or a MIDI controller:
 - 14 Permanent presets – great amp and effects setups that are always available
 - Fender® *Custom Shop* bank – 7 premium amp and effects combinations
 - *Your Amp Collection* bank – 7 “stock” classic amplifiers
 - 7 Rewritable presets – create and save your own amp and effects setups in the *Players' Lounge* bank
- 3 groups of studio-quality effects that can be used simultaneously:
 - 4 Reverb types with selectable levels and MIDI-accessible parameters
 - 5 Modulation effect types with selectable levels and MIDI-accessible parameters
 - 3 Delay effect types with selectable levels and MIDI-accessible parameters
- MIDI implementation:
 - 27 Continuous Controllers for adjusting amp settings using external MIDI equipment (sequencer, computer, foot-controller or Cyber-Series™ amplifier)
 - Preset-defined Continuous Controller enables foot-pedal control of programmable parameters
 - System Exclusive functionality for selective preset management
 - Front panel MIDI IN and MIDI OUT ports
- **Virtual Tone Interpolation™** technology offers 7 Amp Type selections with tone stacks located *before* or *after* the drive circuitry as appropriate
- Hum Reduction algorithm (patent pending) actively seeks out and suppresses environmental “hum”
- On-board digital chromatic tuner
- 65 watts of output power
- 12", 8Ω Celestion® speaker
- Stereo headphone/line out jack

Thank you for choosing Fender®

—Tone, Tradition and Innovation—since 1946

1 Overview

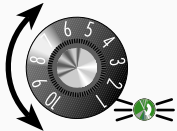


Operation Essentials

Each preset contains a complete set of amplifier and effects settings.

There are three banks of presets:

CUSTOM SHOP	Permanent
AMP COLLECTION	Permanent
PLAYERS' LOUNGE	Rewritable



Capture control of a knob by turning it until the adjacent LED lights up.

Capture happens when the knob setting matches its actual (internal) setting stored within the current preset.

You can save 7 of your own amplifier and effects settings in the Players' Lounge bank of presets.

Presets and Banks

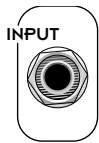
The Cyber-Champ™ is instantly reconfigured each time you select a preset. Use the preset buttons **A B C D E F G** to select a preset in the current *bank*. Press the BANK button **BANK**, then a preset button to select a preset from another bank. Note that when you select a preset, the position of each knob will *not* reflect its actual setting (except by coincidence) until it is captured . . .

Knob Capture

You must first “capture” control of a knob to adjust the setting. Capture by turning the knob until the adjacent LED lights up. Once captured, further adjustments are immediate and audible.

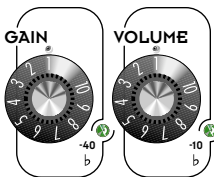
Saving Presets

Captured knob settings are released when you make a preset selection . . . *but* you can save all your current settings simply by holding any preset button in for 2 seconds. Your new preset is saved into the Players' Lounge bank, assigned to the button held. Your new preset is automatically activated.



A. INPUT JACK

Input connection for your guitar. The input level automatically adjusts itself to ensure an adequate signal level is supplied to the DSP circuitry.

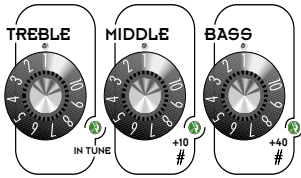


B. GAIN

Controls the distortion level and contributes to the overall amp loudness. Use VOLUME {C} to adjust for (normalize) any undesired volume level change resulting from a GAIN level change.

C. VOLUME

Controls the post-distortion signal level and contributes to the overall amp loudness. Use in conjunction with GAIN {B} to normalize volume differences between presets.



The tone controls come before or after the distortion circuitry, depending on the *Amp Type* of the preset (see Presets starting on page 7).



D. TREBLE

Controls the high-frequency tone level.

E. MIDDLE

Controls the mid-frequency tone level.

F. BASS

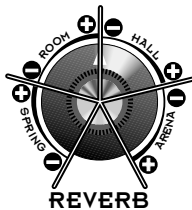
Controls the low-frequency tone level.

G. MASTER

Controls the overall volume output from the amplifier together with GAIN {B}, and VOLUME {D}. MASTER is the final “volume gatekeeper” limiting the maximum output level of the Cyber-Champ™ amplifier. The MASTER knob position (setting) is an absolute limit—even when controlling MASTER with MIDI messages. MASTER is not preset programmable.

H. REVERB

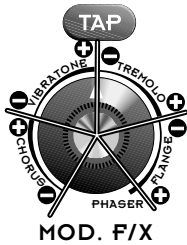
Selects a Reverb type and level. The level increases going clockwise within each type as illustrated from off (–), to maximum (+).



Reverb Type	Description
SPRING	Bright Blackface™ Reverb with long decay
ROOM	Bright room with medium decay
HALL	Medium-bright hall with long decay
ARENA	Dark frequency response with long decay

I. MOD F/X

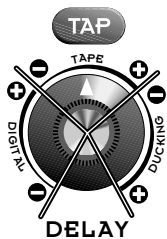
Selects a Modulation effect type and level. The level increases going clockwise within each type as illustrated from off (–), to maximum (+). Set a custom modulation rate by pressing TAP at least twice at the desired rate. Press TAP once for the slowest rate possible. There is only one level setting for Phaser.



Modulation Effect Type	Description
CHORUS	Medium sweep rate with high depth
VIBRATONE	Fast rate with medium depth
TREMOLO	Fast rate with medium-high depth and duty cycle
FLANGE	Slow sweep rate with medium depth
PHASER	Medium sweep rate with medium depth

J. DELAY

Selects a Delay type and level. The level increases going clockwise within each type as illustrated from off (–), to maximum (+). Set a custom delay interval by pressing TAP at least twice at the desired rate. Press TAP once for the longest interval possible.



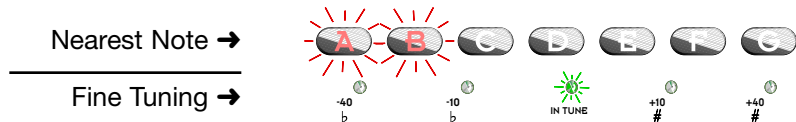
Delay Type	Description
DIGITAL	130 ms delay, single repeat (panning)
TAPE	300 ms delay, low feedback, medium wow & flutter
DUCKING	460 ms delay, medium feedback, “ducks” out of the way when playing

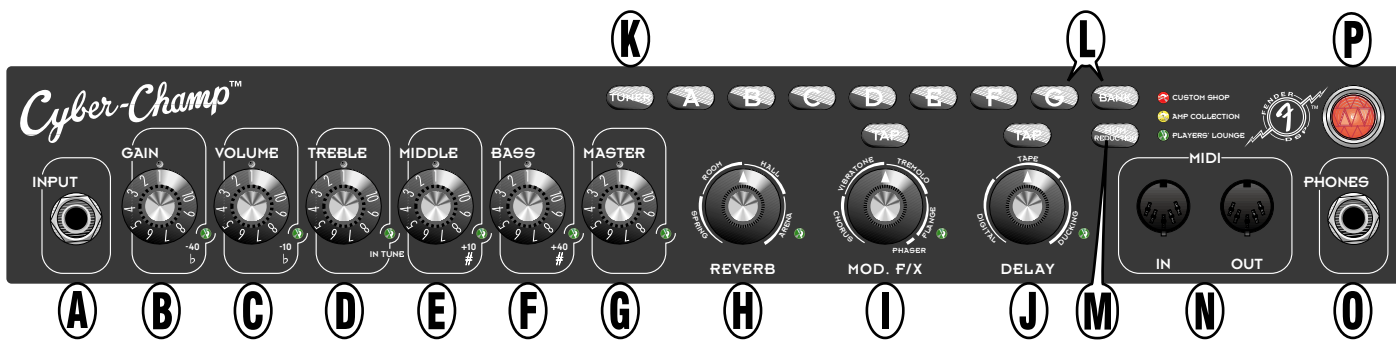


K. TUNER

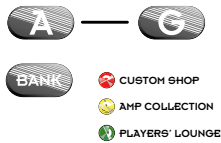
Turns the tuner on and off. The tuner “borrows” the preset button lights to indicate the nearest note and the capture LEDs to indicate flat, in tune, or sharp.

Half notes are indicated by two preset button lights. For example, A and B would light up to indicate A sharp (B flat).





L. PRESET and BANK BUTTONS



Presets and Banks are described in depth in Presets starting on page 7.

The A–G buttons select presets from the current bank as indicated by the color coded bank LEDs. To activate a preset from a different bank, press the BANK button one or more times, then press a preset button.

Holding a preset button in for 2 seconds will save the current amplifier settings to the Players’ Lounge bank under the button held. Your new preset is automatically activated.

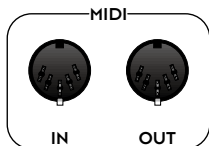
RESET: To reset the Players’ Lounge bank to factory presets, hold down the A and G preset buttons while turning the Cyber-Champ™ amplifier on.

M. HUM REDUCTION



Turns Hum Reduction on and off. Reduces environmental hum in some situations using an algorithm that seeks out hum frequencies and squelches only the “hum” without degrading your music!

N. MIDI IN/OUT



Musical Instrument Digital Interface ports for connecting MIDI devices to the Cyber-Champ™ amplifier. MIDI can be used to change and manage presets, adjust settings, activate tuner mode and edit effect parameters. See MIDI starting on page 9.

O. PHONES



Connect your stereo headphones here. This output jack can also be used as a stereo line out for connection to sound reinforcement or recording equipment.

P. RED JEWEL



It's a *Fender!*

Rear Panel

Q. POWER



Turns the Cyber-Champ™ on and off.

R. IEC CONNECTOR

Connect the included power cord in compliance with the voltage and frequency ratings on the rear panel of your amplifier.

2 Presets

This section defines the presets in each bank then describes how to customize presets and effects.



Custom Shop Bank

The Custom Shop (permanent) presets contain premium amplifier and effect combinations. Press BANK repeatedly until the red LED lights up, then press a preset button (A–G) to activate a Custom Shop preset.

Preset	Name	Amp Type	Reverb	Modulation	Delay
A	Red House	High-Gain Tweed with '59 Bassman® Pre-Distortion tone controls	None	None	300ms Tape Delay, low feedback with medium wow & flutter
B	R.I.P.	Max-Gain, Modern Heavy Metal Combo with Post-Distortion tone controls	Room, dark frequency response with short decay	Chorus, slow sweep rate with high depth	None
C	Hang 10	Clean Tweed with '59 Bassman® Pre-Distortion tone controls	Spring, bright Reverb with long decay	None	130ms Tape Delay, low feedback with medium wow & flutter
D	Texas Shuffle	High-Gain Blackface™, with vintage Pre-Distortion Fender® Blackface™ tone controls	Spring, medium-bright Blackface™ Reverb	Vibratone, fast rate with medium depth	130ms Tape Delay, low feedback with medium wow & flutter
E	Modified Combo	Maximum-Gain Modern Modified Combo with Post-Distortion tone controls	None	None	None
F	Euro Trem	High-Gain British Combo with Post-Distortion tone controls	None	Tremolo, fast rate with high depth	None
G	Boris Chorus	Clean Dyna-Touch™ with Pre-Distortion tone controls	None	Chorus, slow sweep rate with high depth	None



Amp Collection Bank

The Amp Collection (permanent) presets contain classic “stock” amplifiers. Press BANK repeatedly until the yellow LED lights up, then press a preset button (A–G) to activate an Amp Collection preset.

Preset	Name	Amp Type	Reverb	Modulation	Delay
A	'49 Champ®	Crunch Tweed with '59 Bassman® Pre-Distortion tone controls	None	None	None
B	'55 Deluxe™	High-Gain Tweed, with '59 Bassman® Pre-Distortion tone controls	None	None	None
C	'65 Princeton® Reverb	Clean Blackface™, with vintage Pre-Distortion Fender® Blackface™ tone controls	Spring, medium-bright Blackface™ Reverb	None	None
D	'65 Deluxe Reverb®	Crunch Blackface™, with vintage Pre-Distortion Fender® Blackface™ tone controls	Spring, medium-bright Blackface™ Reverb	None	None
E	Princeton® 65 DSP	High-Gain Dyna-Touch™ with Post-Distortion tone controls	Hall, bright with medium decay	None	260ms Digital Delay, medium feedback
F	British Invasion	Crunch Jangly British Combo with Pre-Distortion tone controls	Hall, bright with long decay	None	None
G	Vintage British Crunch	Crunch vintage British Combo with Post-Distortion tone controls	None	None	None



Players' Lounge Bank

The Players' Lounge (rewritable) presets are outfitted from the factory with a variety of amplifier and effects combinations but they are rewritable for your own preset designs. Press the BANK repeatedly until the green LED lights up, then press a preset button (A–G) to activate a Players' Lounge preset.

NOTE: The table (below) will not be valid for presets that you have customized.

RESET: To reset the Players' Lounge bank to factory presets, hold down the A and G preset buttons while turning the Cyber-Champ™ amplifier on.

♫ Resetting will erase any custom presets you have created.

Preset	Name	Amp Type	Reverb	Modulation	Delay
A	Stadium Rock	Higher-Gain British Combo with Post-Distortion tone controls	Arena, bright frequency response with long decay	None	300ms Tape Delay, low feedback with medium wow & flutter
B	Morning Light	Clean Blackface™, with vintage Pre-Distortion Fender® Blackface™ tone controls	Room, bright frequency response with medium decay	Vibratone, fast rate with medium depth	None
C	Psychobilly	High-Gain Tweed with '59 Bassman® Pre-Distortion tone controls	Room, dark frequency response with medium decay	None	130ms Tape Delay, low feedback with medium wow & flutter
D	Nü-D	Maximum-Gain, Modern Heavy Metal Combo with Post-Distortion tone controls	Room, dark frequency response with medium decay	Chorus, slow sweep rate with high depth	100ms Tape Delay, low feedback with medium wow & flutter
E	Clean Arena	Crunch Blackface™, with vintage Pre-Distortion Fender® Blackface™ tone controls	Arena, bright frequency response with long decay	None	None
F	Jazz Box	Clean Dyna-Touch™ with Pre-Distortion tone controls	Hall, bright frequency response with medium decay	None	None
G	Barracuda	Maximum-Gain, Dyna-Touch™ Pre-Distortion tone controls	Room, dark frequency response with medium decay	Phaser, medium sweep rate with medium depth	350 ms Ducking Delay, medium feedback, high ducking

Preset Editing

You can create 7 of your own presets and save them in the Players' Lounge bank. First select any preset with the desired *Amp Type* as the foundation for your new preset — see the tables on pages 7 and 8. Then adjust the amplifier settings any way you like. When satisfied, press and hold any preset button for 2 seconds. Your new preset is saved in the Players' Lounge bank (assigned to the button held) and it is automatically activated.

NOTE: The previous contents of the Players' Lounge preset you are saving to will be overwritten with your new preset.

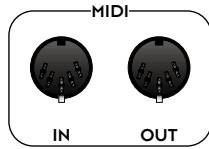
♫ You can use a Players' Lounge preset as the starting point for a new preset, but the descriptions in the table above will no longer be valid for presets you have customized.

Effect Editing—Advanced

Using a computer you can edit effect parameters that are inaccessible through the Cyber-Champ™ front panel controls. Your modified effect can then be saved to a Players' Lounge preset and used in the modified form using the front panel controls (See **Advanced Effect Editing** on page 10).

♫ A computer with a MIDI capable soundcard, appropriate adapters and a MIDI utility application are required for advanced effect editing.

3 MIDI



This section describes the Musical Instrument Digital Interface (MIDI) capabilities of the Cyber-Champ™ amplifier. The Cyber-Champ™ amplifier supports the MIDI standard using the MIDI IN and OUT jacks on the front panel, both 5-pin DIN jacks. The amplifier uses Channel Messages and System Exclusive Messages to accomplish the following tasks:

Channel Messages

Switching Tuner and Effects On/Off

You can switch the tuner on and off using MIDI program change 127 in any bank (00, 01, 02). You can switch the effects (Modulation and Delay) on and off using continuous controller 85—any value between 64 and 127 turns effects on and any value between 0 and 63 turns effects off. Reverb is not affected.

Echoing Control Changes

You can control two or more Cyber-Champ™ amplifiers as one by linking their MIDI ports together. Connect MIDI OUT on the primary amplifier to MIDI IN on the auxiliary amplifier and so on down the line. The first time each knob is used you must capture it on all amplifiers before you can adjust the setting on all amplifiers. To ensure that you have captured a particular setting on all amplifiers, turn the knob through its full range of values, then to the desired value. Further adjustments will be synchronized.

Selecting Presets

You can select presets using MIDI program changes. A continuous controller pedal set to number 11 can be used to control either the Modulation effect rate or the Delay effect interval according to the program change number used:

MODULATION EFFECT RATE CONTROL				DELAY EFFECT INTERVAL CONTROL			
Program Change #	Bank	Preset		Program Change #	Bank	Preset	
0		A		30		A	
1		B		31		B	
2		C		32		C	
3	Custom Shop	D		34	Custom Shop	E	
4		E		35		F	
5		F		33		D	
6		G		36		G	
10		A		40		A	
11		B		41		B	
12		C		42		C	
13	Amp Collection	D		43	Amp Collection	D	
14		E		44		E	
15		F		45		F	
16		G		46		G	
20		A		50		A	
21		B		51		B	
22		C		52		C	
23	Players' Lounge	D		53	Players' Lounge	D	
24		E		54		E	
25		F		55		F	
26		G		56		G	

♪ See the MIDI Implementation Chart on page 14 for details.

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♪ To switch your continuous controller pedal between Modulation rate and Delay interval for the same preset, go up or down 30, respectively. For example, 15 and 45 are both preset F in the Amp Collection bank but 15 controls Modulation rate and 45 controls Delay interval.

♪ All program changes are made in MIDI bank 00 and are echoed on transmit channel 1.

♫ See the MIDI Implementation Chart on page 14 for details.

Adjusting Amp Settings

You can adjust any knob on the Cyber-Champ™ amplifier using the following continuous controller numbers. Values range from 0=off to 127=maximum.

♫ Control changes can be recorded using a sequencer so that you can play them back during performances.

♫ A sequencer must first capture knobs before it can control their settings. To do this, ramp the continuous controller through the full range of values, then return it to the desired value (setting). The sequencer will then have active control of the knob (parameter).

NOTE: If sequencer capture is lost (by manually turning the knob for example) the sequencer must recapture control of that parameter to use it again.

Continuous Controller #	Parameter Setting
07	Master Volume
85	Effects Off/On (0-63=off, 64-127=on)
102	Gain
103	Volume
104	Treble
105	Middle
106	Bass
107	Reserved
108	Master Volume
109	Reverb Level
110	Reverb Time
111	Reverb Dwell (Input)
112	Reverb Diffusion
113	Reverb Tone
114	Modulation Effect Level
115	Modulation Effect Rate
116	Modulation Effect Parameter 2 (see page 11)
117	Modulation Effect Parameter 3 (see page 11)
118	Modulation Effect Parameter 4 (see page 11)
119	Tap Interval
120	Delay Level
121	Delay Time
122	Delay Feedback
123	Delay Parameter 2 (see page 12)
124	Delay Parameter 3 (see page 12)
125	Reverb, Multi-Effects (see page 12)
126	Modulation Effect, Multi-Effects
127	Delay, Multi-Effects

♫ See the MIDI Implementation Chart on page 14 for details.

Advanced Effect Editing

Reverb

Reverb parameters in the figure and table below are accessible only by MIDI continuous controller numbers 109-113 and have a value range of 0-127.

♫ All 4 Reverb types have the same 5 editable parameters.

Reverb parameter
Continuous Controller
numbers



CC#	Reverb (all)
109	Level
110	Time
111	Dwell
112	Diffusion
113	Tone

SPRING, ROOM, HALL, ARENA — Parameter value definitions

Level	Amount of Reverb (0 is off, 127 is maximum)
Time	Duration of Reverb sustain (0 is shortest, 127 is longest)
Dwell	Signal level input to the Reverb circuit (versus output level controlled by the REVERB knob). (0 is minimum, 127 is maximum)
Diffusion	Density of Reverb from sparse with non-uniform decay, to dense with smooth decay (0 is sparsest, 127 is smoothest)
Tone	Brightness of Reverb (0 is darkest, 127 is brightest)

Modulation Effects

Modulation Effect parameters in the figure and table below are accessible for the current effect type only by MIDI continuous controller numbers 114-118 (except *Rate* (CC# 115) which is also accessible by the TAP button). Continuous controller messages have a value range of 0-127.

CC#	Chorus	Vibratone	Tremolo	Flange	Phaser
114	Level	Level	Level	Level	Level
115	Rate	Rotor Speed	Rate	Rate	Rate
116	Depth	Doppler Freq. Shift	Depth	Depth	Depth
117	Avg. Delay Time	Low-Pass Filter Range	Offset	Feedback	Feedback
118	Left/Right Phase	Left/Right Phase	Shape	Left/Right Phase	Stereo Spread

Modulation effect parameter
Continuous Controller
numbers

CHORUS — Parameter value definitions

Level	Amount of the Chorus effect (0 is off, 127 is maximum)
Rate	Sweep rate of the Chorus effect (0.08 Hz selected as 0 is slowest, 10 Hz selected as 127 is fastest)
Depth	Amount of Doppler frequency shift and how apparent the Chorus effect sounds (0 is minimum, 127 is maximum)
Average Delay Time	Average delay time of the moving Chorus taps (repeats), use higher settings for doubling effect (0 is shortest, 127 is longest)
Left/Right Phase¹	Stereo - Phase between left and right channel low frequency oscillators (0 is minimum stereo effect, 127 is maximum stereo effect)

VIBRATONE — Parameter value definitions

Level	Amount of the Vibratone effect (0 is off, 127 is maximum)
Rotor Speed	Rate of the virtual rotating speaker baffle (0.08 Hz selected as 0 is slowest, 10 Hz selected as 127 is fastest)
Doppler Frequency Shift	Amount of Doppler frequency shift and how apparent the Vibratone effect sounds (0 is minimum shift, 127 is maximum shift)
Low-Pass Filter Range	Amount of high frequencies in the Vibratone signal (0 is minimum, 127 is maximum)
Amplitude Modulation Depth	Amount the volume level varies with each cycle of the Vibratone effect (0 is minimum, 127 is maximum)

TREMOLO — Parameter value definitions

Level	Amount of the Tremolo effect (0 is off, 127 is maximum)
Rate	Cycle rate of the Tremolo effect (0.08 Hz selected as 0 is slowest, 10 Hz selected as 127 is fastest)
Depth	Amount the volume level drops with each cycle of the Tremolo effect (0 is minimum depth, 127 is maximum depth)
Offset	Offset of the low-frequency oscillator (0 is minimum, 127 is maximum)
Shape	Smoothness of the Tremolo waveform (0 is subtle and natural, 127 is choppy and percussive)

FLANGE — Parameter value definitions

Level	Amount of the Flange effect (0 is off, 127 is maximum)
Rate	Sweep rate of the Flange effect (0.08 Hz selected as 0 is slowest, 10 Hz selected as 127 is fastest)
Depth	Amount of Doppler frequency shift and how apparent the Flange effect sounds (0 is minimum effect, 127 is maximum effect)
Feedback	Amount of the Flange signal that is fed back into the Flange circuit (0 is minimum feedback, 127 is maximum feedback)
Left/Right Phase¹	Stereo - Phase between left and right channel low frequency oscillators (0 is minimum stereo effect, 127 is maximum stereo effect)

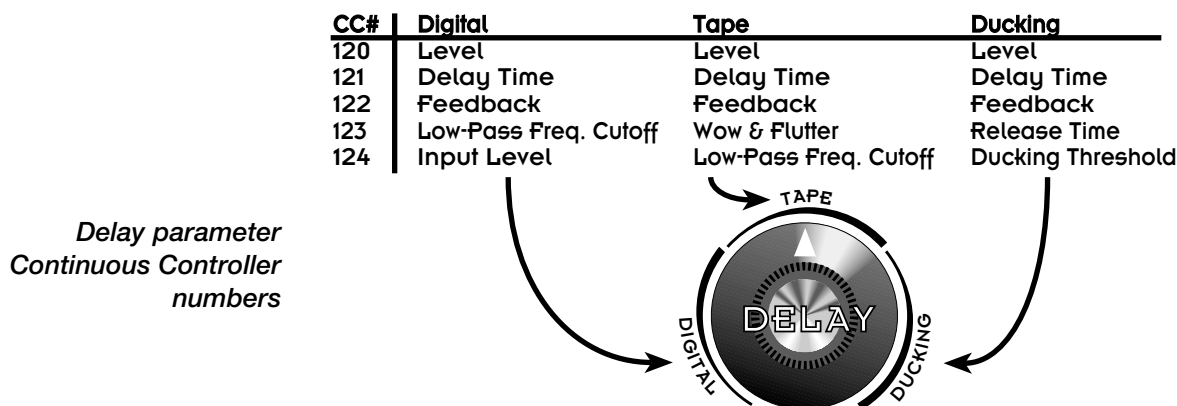
PHASER — Parameter value definitions

Level	Amount of the Phaser effect (0 is off, 127 is maximum)
Rate	Sweep rate of the Phaser effect (0.08 Hz selected as 0 is slowest, 10 Hz selected as 127 is fastest)
Depth	Width of the Phaser sweep and how apparent the Phaser effect sounds (0 is minimum, 127 is maximum)
Feedback	Amount of Phaser effect processed signal that is <i>fed back</i> (recycled) to the input (0 is minimum feedback, 127 is maximum feedback)
Stereo Spread¹	Stereo - Amount of stereo separation between left and right channels (0 is minimum stereo effect, 127 is maximum stereo effect)

¹This parameter modifies the stereo capabilities of your Cyber-Champ™ amplifier which can be enjoyed using the PHONES output jack.

Delay Effects

Delay Effect parameters in the figure and tables below are accessible for the current effect only by MIDI continuous controller numbers 120-124 (except *Delay Time* (CC# 121) which is also accessible by the TAP button). Continuous controller messages have a value range of 0-127.



DIGITAL — Parameter value definitions

Level	Amount of the Delay effect (0 is off, 127 is maximum)
Delay Time	Interval between Delay repeats (30 milliseconds selected as 0 is shortest, 1450 milliseconds selected as 127 is longest)
Feedback	Number of Delay repeats (0 is 1 repeat, 127 is many repeats)
Low-Pass Frequency Cutoff	Brightness of the Delay signal (0 is minimum (dark tone), 127 is maximum brightness)
Input Level	Signal level going into the Delay effect (versus output level controlled by the numbered DELAY knob) (0 is minimum, 127 is maximum)

TAPE — Parameter value definitions

Level	Amount of the Delay effect (0 is off, 127 is maximum)
Delay Time	Interval between Delay repeats (30 milliseconds selected as 0 is shortest, 1450 milliseconds selected as 127 is longest)
Feedback	Number of Delay repeats (0 is 1 repeat, 127 is many repeats)
Wow & Flutter	Amount of random volume and pitch changes – tape recorder nostalgia effect (0 is minimum fluctuation, 127 is maximum fluctuation)
Low-Pass Frequency Cutoff	Brightness of the Delay signal (0 is darkest, 127 is brightest)

DUCKING — Parameter value definitions

Level	Amount of the Delay effect (0 is off, 127 is maximum)
Delay Time	Interval between Delay repeats (30 milliseconds selected as 0 is shortest, 1450 milliseconds selected as 127 is longest)
Feedback	Number of Delay repeats (0 is 1 repeat, 127 is many repeats)
Release Time	Duration that the delayed signal is suppressed after “live” playing (input) stops (0 is shortest wait, 127 is longest wait)
Ducking Threshold	Sensitivity of the ducking action to your playing strength (signal level) (0 in least reactive, 127 is most reactive)

System Exclusive Messages

♫ See Appendix 2 on page 15 for details.

♫ The last saved version of a preset is actually what is transmitted—recent (unsaved) edits are not transmitted.

♫ Your computer must have a MIDI capable soundcard with appropriate adapters and you must have a MIDI utility application such as Cakewalk™.

♫ See Appendix 3 on page 16 for details.

Transferring Presets

You can transfer any preset between Cyber-Champ™ amplifiers or between a Cyber-Champ™ amplifier and a computer.

Cyber-Champ™ to Cyber-Champ™

Connect MIDI OUT on the transmitting amplifier to MIDI IN on the receiving amplifier. Select the preset you want to send on the transmitting amplifier then hold the BANK button for 2 seconds. After the preset buttons flash on the receiving amplifier, hold any preset button for 2 seconds to save to that location in the Players' Lounge bank.

Cyber-Champ™ to Computer

Connect MIDI OUT on your Cyber-Champ™ amplifier to MIDI IN on your computer. Open a new SysEx file in your MIDI utility application to accept the preset transfer (dump). Select the preset you want to send on the Cyber-Champ™ amplifier, then hold the BANK button for 2 seconds.

Computer to Cyber-Champ™

Connect MIDI OUT on your computer to MIDI IN on your Cyber-Champ™ amplifier. Open a SysEx file containing a preset in your MIDI utility application then initiate the transfer (dump). After the preset buttons flash on the Cyber-Champ™ amplifier, hold any preset button for 2 seconds to save to that location in the Players' Lounge bank.

Selecting Effect Types and Switching Hum Reduction On/Off

You can select effect types and turn Hum Reduction on or off using SysEx messages. A sequencer or a computer with a MIDI capable soundcard and a MIDI utility application are required for these functions. The SysEx messages required for these operations are in Appendix 3 on page 16.

4 ✦ Appendices

Appendix 1 MIDI Implementation Chart

FUNCTION		TRANSMITTED	RECOGNIZED	REMARKS
Basic Channel	Default	1	Omni	Transmit Channel is fixed at 1.
	Changed	X	X	
Mode	Default	Mode 3	Mode 2	
	Messages	X	X	
	Altered	X	X	
Note Number	Note Number	X	X	
	True Voice	X	X	
Velocity	Note ON	X	X	
	Note OFF	X	X	
After Touch	Keys	X	X	
	Channel	X	X	
Pitch Bender		X	X	
Control Change		O	O	Continuous Controller Number is fixed at 11.
Program Change	Implemented	O	O	All program changes in Bank #00.
	True #	0-6, 10-16, 20-26, 30-36, 40-46, 50-56	0-6, 10-16, 20-26, 30-36, 40-46, 50-56	Program changes to program 127 (any bank) activates/deactivates the Tuner.
System Exclusive		O	O	See Appendix 2, 3, 4
System Common	Song Position	X	X	
	Song Select	X	X	
	Tune Request	X	X	
System Real Time	Clock	X	X	
	Commands	X	X	
Auxiliary Messages	Local On/Off	X	X	
	All Notes Off	X	X	
	Active Sensing	X	X	
	System Reset	X	X	
	GM ON	X	X	
Mode 1: Omni On, Poly		Mode 2: Omni On, Mono		O: Yes
Mode 3: Omni Off, Poly		Mode 4: Omni Off, Mono		X: No

NOTES:

The Cyber-Champ™ amplifier does not recognize or transmit System Common messages.

All knob adjustments (even knobs not captured) are transmitted via MIDI OUT. MIDI program changes and continuous controller changes are also “echoed” through the MIDI OUT port. Another Cyber-Champ™ amplifier connected as a receive MIDI device will “mirror” all these changes.

Appendix 2

SysEx ◊ MIDI Dump

This appendix contains tables describing the System Exclusive message components and protocol for MIDI Dump. **NOTE:** The nomenclature for values uses an H to designate that the one-byte value is expressed in Hexadecimal (00H – FFH).

System Exclusive Header

VALUE	DESCRIPTION
F0H	Start of System Exclusive Message
08H	Fender Manufacturer ID
nnH	nn = Device ID (minus one)
31H	Amp ID number 31H. The upper nibble identifies the Cyber-Champ™ amplifier and the lower nibble designates software version
ffH	Function ID number: 02H = One Preset Dump
F7H	End of System Exclusive Message

System Exclusive Packet

VALUE	DESCRIPTION
F0H	Start of System Exclusive Message
08H	Fender Manufacturer ID
nnH	nn = Device ID (minus one)
31H	Amp ID number 31H. The upper nibble identifies the Cyber-Champ™ amplifier and the lower nibble designates software version
ffH	Function ID number: 02H = One Preset Dump
PnH	Packet Number
Data	Data bytes: The data bytes have been formatted following the MIDI Specification 1.0
cbH	Checksum byte used for error checking
F7H	End of System Exclusive Message

System Exclusive End of File Message

VALUE	DESCRIPTION
F0H	Start of System Exclusive Message
08H	Fender Manufacturer ID
nnH	nn = Device ID (minus one)
21H	Amp ID number 31H. The upper nibble identifies the Cyber-Champ™ amplifier and the lower nibble designates software version.
ffH	Function ID number: 01H = Utilities Message, 02H = One Preset Message
7BH	End of System Exclusive File Byte
F7H	End of System Exclusive Message

MIDI Dump Initiation Message

VALUE	DESCRIPTION
F0H	Start of System Exclusive Message
08H	Fender Manufacturer ID
nnH	nn = Device ID (minus one)
21H	Amp ID number 31H. The upper nibble identifies the Cyber-Champ™ amplifier and the lower nibble designates software version.
04H	Message ID number for additional parameter controls.
23H	ID number indicating request for a MIDI Dump
00H	Unused Data Byte
00H	Unused Data Byte
00H	Unused Data Byte
ddH	Dump ID byte: 01H = Transmit Utilities, 02H = Transmit One Preset
7BH	End of System Exclusive File Byte
F7H	End of System Exclusive Message

Appendix 3

SysEx ♦ Effect Type/Hum Reduction

This appendix contains tables describing the System Exclusive message components and protocol for selecting effect types and switching hum reduction on and off. NOTE: The nomenclature for values uses an H to designate that the one-byte value is expressed in Hexadecimal (00H – FFH).

System Exclusive Preset Edit Message

VALUE	DESCRIPTION
F0H	Start of System Exclusive Message
08H	Fender Manufacturer ID
nnH	nn = Device ID (minus one)
21H	Amp ID number 31H. The upper nibble identifies the Cyber-Champ™ amplifier and the lower nibble designates software version.
05H	Message ID number for additional parameter controls.
ddH	Parameter ID number for additional parameter controls (See table below).
vvH	Value for the parameter you wish to edit (See table below).
7BH	End of System Exclusive File Byte
F7H	End of System Exclusive Message

Parameter/Setting Table

PARAMETER ID	PARAMETER ID NUMBER (ddH)	VALUE (vvH)
Reserved	00H	
Reverb Type Selection	01H	00H = Room
		01H = Reserved
		02H = Reserved
		03H = Hall
		04H = Reserved
		05H = Reserved
		06H = Arena
		07H = Reserved
		08H = Reserved
		09H = Reserved
		0AH = Spring
		0BH = Reserved
		0CH = Reserved
		0DH = Reserved
		0EH = Reserved
		0FH = Reserved
Mod. F/X Type Selection	02H	00H = Chorus
		01H = Reserved
		02H = Reserved
		03H = Flange
		04H = Reserved
		05H = Reserved
		06H = Phaser
		07H = Reserved
		08H = Reserved
		09H = Reserved
		0AH = Tremolo
		0BH = Reserved
0CH = Reserved		
0DH = Vibratone		
0EH = Reserved		
0FH = Reserved		

PARAMETER ID	PARAMETER ID NUMBER (ddH)	VALUE (vvH)
Delay Type Selection	03H	00H = Reserved
		01H = Digital
		02H = Reserved
		03H = Reserved
		04H = Reserved
		05H = Reserved
		06H = Reserved
		07H = Ducking
		08H = Reserved
		09H = Reserved
		0AH = Reserved
		0BH = Tape
		0CH = Reserved
		0DH = Reserved
0EH = Reserved		
0FH = Reserved		
Reserved	04H	
Reserved	05H	
Reserved	06H	
Reserved	07H	
Hum Reduction Selection	08H	00H = Off
		01H = On

Appendix 4 SysEx ◊ Handshake

Following the guidelines of the MIDI specifications, data is transmitted as follows: First, the System Exclusive Header is sent. The amp will wait 200ms to look for a handshake. If no handshake is received then the amp will transmit the first data packet. The transmission continues until all the information has been sent. After the last packet, the End of File message is sent. The handshake messages the amp will respond to are:

Handshake System Exclusive Message

VALUE	DESCRIPTION
F0H	Start of System Exclusive Message
7EH	Universal Message
nnH	nn = Device ID (minus one)
hdH	Handshake ID: 7CH = Wait, 7DH = Cancel, 7EH = Not Acknowledge, 7FH = Acknowledge
ppH	Packet Number
F7H	End of System Exclusive Message

Appendix 5 Troubleshooting

PROBLEM	SOLUTIONS
<i>No sound coming from the amp</i>	<ul style="list-style-type: none"> Remove anything plugged into the PHONES jack. • Switch TUNER off. Capture and turn all knobs above minimum.
<i>The amp is not responding to any MIDI Program Change messages from external devices</i>	<ul style="list-style-type: none"> Make sure the MIDI cables are connected properly.
<i>The amp is not responding to any MIDI Continuous Controller messages from external devices</i>	<ul style="list-style-type: none"> Make sure the Continuous Controller number matches the default value or one of the predefined numbers (see page 14). • Make sure the MIDI cables are connected properly.
<i>The amp is not responding to any MIDI System Exclusive messages from external devices</i>	<ul style="list-style-type: none"> Make sure the MIDI cables are connected properly.
<i>The unit is unresponsive but has some blinking or lit lights (buttons or LEDs)</i>	<ul style="list-style-type: none"> Turn the power on and off. If still unresponsive, make note of which lights are on or blinking (fast or slow). Call an authorized Fender® service center with this information.
To locate MIDI resources online, visit: www.midi.org	
If a problem persists, consult an authorized Fender® Service Center, or point your browser to: www.fender.com or www.mrgearhead.net and click on support.	

Appendix 6 Specifications

TYPE:	PR 528	
PART NUMBERS:	2290300000 (120V, 60Hz) USA	2290301000 (110V, 60Hz) TW
	2290303000 (240V, 50Hz) AUS	2290304000 (230V, 50Hz) UK
	2290305000 (220V, 50Hz) ARG	2290306000 (230V, 50Hz) EUR
	2290307000 (100V, 50Hz) JPN	2290309000 (220V, 60Hz) ROK
POWER REQUIREMENTS:	180W	
POWER OUTPUT:	65W @ 5%THD	
RATED LOAD IMPEDANCE:	8Ω	
SPEAKER COMPLEMENT:	One 12", 8Ω Celestion® G12P-80 (P/N 005985000)	
FUSES	PRIMARY: F4A 125V (100V, 120V units), F1.6A 250V (230V, 240V units) SECONDARY: T1A 250V (digital supply, all units)	
MIDI JACKS:	IN, OUT	
PHONES JACK:	1/4" Stereo	
DIMENSIONS	HEIGHT: 17.25 in (43.8 cm) WIDTH: 18.5 in (47.0 cm) DEPTH: 9.5 in (24.1 cm)	
WEIGHT:	30 lb (13.6 kg)	

Product specifications are subject to change without notice.

