SX300R

FEATURES CELESTION SPEAKERS

SX300C

SX300H

SX SERIES Classic Tube Emulation, awesome digital effects, rich black vinyl covering and the brass red jewel light continue to make the AMERICAN MADE SX Series one of the hottest amps on the market today!

EMULATION OR MODELING? Unlike other "modeling" amps, the SX doesn't just copy the sounds of other amplifiers – it actually emulates 12AX7 tube circuitry. The SX waveforms successfully "emulates" real tube waveforms that breathe and express warmth from a mild soft-clip to a full power soaked sustain. Pro players and industry gurus have stated that the SX Tube Emulator actually sounds better than many tube amps!

THREE CHANNELS – CH1 LEAD with high gain switch, CH2 LEAD with BLUES switch and CH3 CLEAN. Each channel has its own independent volume control for setting up equal levels quickly and easily.

ACTIVE TONE CONTROLS All models feature **BASS**, **MID**, **TREBLE** controls and a **PRESENCE** switch on all channels.

24-BIT EFFECTS Once you have your tone, add in just the right amount of lush REVERBS, rich CHORUSES, thick textured FLANGING or pristine ECHOES using fully adjustable parameters for damping, decay, depth, speed, time and regeneration–up to 256 24-BIT effects. There is also a second digital processor dedicated to creating a lush, concert-hall reverb at the push of a button.

POWER The **SX300C** and **SX300H** feature a full 100 watts RMS. The **SX300C** features two 12" heavy-duty 100w **Celestion SEVENTY 80** speakers that provide awesome guitar reproduction – from clean to blues to scream'n metal. The **SX300H** head can be paired with either a 4x12 half stack or 8x12 full stack. The **SX300R** rackmount pre amp can be paired with the amp of your choice.

REAR PANEL CONNECTIONS All back panels feature a voiced **LINE OUT** for recording or running a slave amp, **HEADPHONE** jack, **EXTENSION SPEAKER** jack and a **FOOT SWITCH** jack for the optional **FS44** for remotely changing channels and turning on/off the effects, (The extra dedicated reverb on the **SX300C**, **SX300H** and **SX300R** is controlled by a front panel switch.) The **SX300C** & **SX300H** also adds SEND/RETURN jacks for your own external effects. A 4, 8, 16Ω impedance switch is featured for optimizing the amp for the extension speakers.

RUGGED CONSTRUCTION SMT surface mount electronics ensure consistent, reliable performance, which is impervious to bumps and vibrations. Strong, lightweight plywood cabinet (not particle board), aluminum chassis, steel grille and corners deliver one of the lightest, yet most rugged amps available.

RECEIVING INSPECTION—read before getting started

INSPECT YOUR AMP FOR ANY DAMAGE which may have occurred during shipping. If any damage is found, please notify the shipping company and CARVIN immediately.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your unit, always use the original carton and packing material. This will provide the best possible protection during shipment. CARVIN and the shipping company are not liable for any damage caused by improper packing.

SAVE YOUR INVOICE. It will be required for warranty service if needed in the future.

SHIPMENT SHORTAGE. If you find items missing, they may have been shipped separately. Please allow several days for the rest of your order to arrive before inquiring.

RECORD THE SERIAL NUMBER on the enclosed warranty card or below on this manual for your records. Keep your portion of the card and return the portion with your name and comments to us.

SX SERIES SPECIFICATIONS:

Speakers:	**SX300C** Two **Celestion SEVENTY 80** 100w 8Ω speakers
RMS Power:	**SX300C/SX300H** 100 watts @ 4, 8, 16Ω
Output Impedance:	4-16 ohms switchable
Power Amp:	THD: Less than 1%
Input Impedance:	100k ohms
Channels:	3—switching
Tone Controls:	
Ch 1 and 2	BASS: 80Hz
	MID: 600Hz
	TREBLE: 8k Hz
	PRESENCE: 11k Hz
Ch 3	BASS: 90Hz
	MID: 575Hz
	TREBLE: 9k Hz
	PRESENCE: 8-11k Hz
Ch 1 + 2 Sensitivity:	1mV for clipping, dynamic range 72dB
Ch 3 Sensitivity:	75mV for full output
Line Out:	1.5 VAC @ full power
Power:	120V or 240V model
Fuse:	5 amp 250V internal
Size:	**SX300C:** 26W x 10.25D x 17.5"H
	SX300H: 24.5W x 9.5D x 10.5"H
	SX300R: 19W x 6D x 1.75"H
Cabinet:	Plywood–no particle board
Net Weight:	**SX300C:** 44 lbs, **SX300H:** 24 lbs, **SX300R:** 5 lbs
Warranty:	One Year
Options:	**FS44** footswitch,
	CV3212 cover SX300
	CV3200 cover SX300H
	VE212 extension cabinet, two GT12 200w 8Ω speakers

For your records, you may wish to record the following information.

Serial No._____ Invoice Date_____

CARVIN

12340 World Trade Drive, San Diego, CA 92128
(800) 854-2235
carvin.com

GETTING STARTED QUICKLY

If you are like most players, you probably want to plug in your new amp and get started playing right away. You can read the rest of the manual later to learn the finer points of operating your amp. In order to get started you will need your SX AMP, a 120 or 230 AC grounded power outlet, your instrument, and a standard guitar cord. With the amp turned off, you may now plug it into the proper AC voltage.

Now turn all the volume and overdrive controls off and set tone controls at their mid center position. If you have purchased the **FS44** foot switch, plug it into the rear foot switch jack for switching the channels and effects. Now, turn the **POWER SWITCH** ON. Gradually raise the volume and overdrive controls. Check the **BLUES SWITCH** and **HI GAIN** switch setting before adjusting the tone controls.

FRONT PANEL

1. INPUT

Connect a 1/4" guitar cable to this input. Use a professional quality 1/4" plug shielded guitar cord (Carvin **SH25**) no longer than 25 feet. A longer cable will reduce the overall treble response from your pickups.

2. CHANNEL SELECT

Select the desired channel using front panel switches or **FS44** foot switch at any time. The LED's will let you see which channel is functioning. Use **CH1** for overdrive/lead, **CH2** for lead/blues, and **CH3** for clean playing.

CHANNEL 1 AND 2 DRIVE

3. CHANNEL INDICATOR

When channel 1 is selected, its **RED LED** will be illuminated. When channel 2 is selected its **YELLOW LED** indicator is illuminated. Notice when the channel indicator is illuminated, the Effects indicator (14) matches the selected channel's color. This indicates the stored effects setting when that channel is on.

4. CHANNEL VOLUME

The volume of the drive channels are to be used as a master level controls. For partial clean output, set the **VOLUME** control to nearly 10 and turn the **DRIVE** nearly off.

5. CHANNEL DRIVE

The channel drive delivers 12AX7 tube saturation and EL34 power tube compression. This channel incorporates a dual section lead **DRIVE** control with 72 dB of dynamic range. So you can go from shimmering clean to fabulous blues soft clipping to full blown overdrive with total tube warmth. For mild 12AX7 tube emulation, set the **DRIVE** control between 2 & 3. For some of the best saturation, set the control between 4 & 6. For full blown drive, set the control between 6 and 10 (your guitar volume should be turned all the way up). Because the SX AMP has a lot of gain in the **DRIVE** control, you can get guitar feedback. If feedback is a problem, reduce the amount of **DRIVE** or move the guitar away from the speakers.

6. CHANNEL 1 HI-GAIN SWITCH

The **Hi-Gain** switch adds extreme gain and super scooped mids. This setting allows for very long sustained notes and heavily over driven power chords.

7. CHANNEL 2 BLUES SWITCH

The exclusive **BLUES SWITCH** adds the critical mid tones in the 525 Hz range that are so important to great sounding blues-rock tone. However, when the **BLUES SWITCH** is not used (OUT), the **SX** delivers a great "scooped" sound for hard rock metal players. It is important that you pre-select this switch for your style of playing before adjusting the tone controls.

8. CHANNEL BASS, MID & TREBLE

These active tone controls develop the heart of your sound. It is important that you start at the mid point (5) on each control. The total range of these controls are a substantial 20 dB (±10 dB) with a center frequency at 80 Hz for **BASS**, 600 Hz for **MIDS** and 8k Hz for the **TREBLE**. These controls are very powerful in their effect, so take time to adjust each control for your ultimate sound.

9. CHANNEL PRESENCE SWITCH

The **PRESENCE** switch frequency range is at the very high end of the guitar spectrum (11k Hz) for shimmering, glassy harmonics. If your sound is too dull, try the presence switch for more highs.

CHANNEL 3 CLEAN

10. CHANNEL 3 INDICATOR

When channel 3 is select its **GREEN LED** indicator is illuminated.

11. CHANNEL 3 VOLUME

Channel switching from the Drive channels into **CHANNEL 3** gives you instant crisp, clean sounds. Thanks to special mud-cutting circuits that work between the frequencies of 550 and 700 Hz, your guitar tones will be full and vibrant.

12. CHANNEL 3 BASS, MID & TREBLE CONTROLS

To start, set the **BASS**, **MID** & **TREBLE** controls at their center (5) position. These controls are most likely to be set according to the type of pickups used (dual or single coil). Most musicians like to reduce the **MID**s deeper bass and crisper highs.
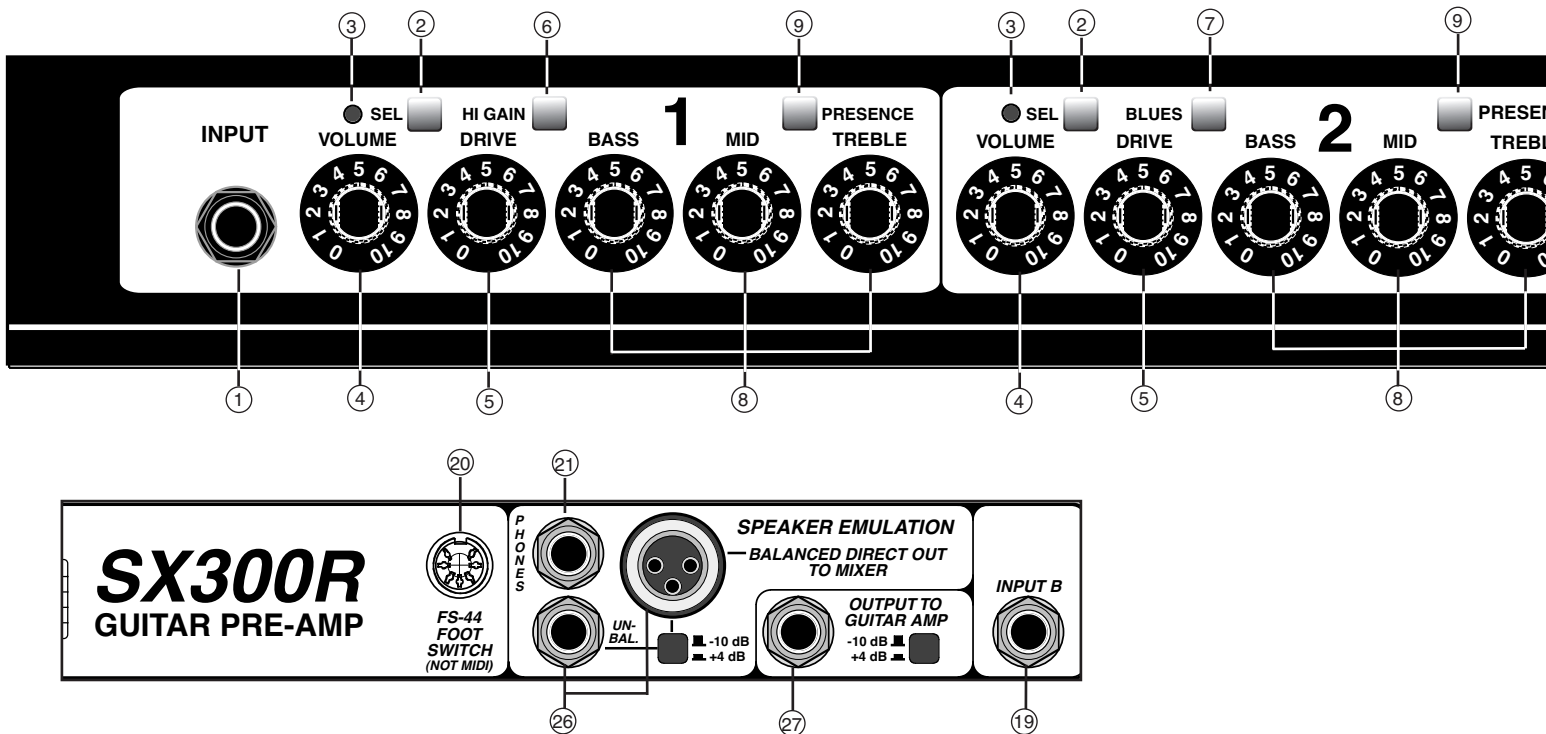
13. CHANNEL 3 PRESENCE SWITCH

For added clarity, the **CH 3 PRESENCE** control increases the highest guitar harmonics in the 8-11k Hz range. A normal bright switch works only in the 3-5k Hz range leaving your sound somewhat flat. Single or dual coil pickups will determine the use of this control.

DSP EFFECTS SECTION

14. SMART EFFECTS™ ADJUST (PARAMETER) CONTROLS

The 24-BIT processor provides a host of great sounding effects including **FLANGE**, **REVERB**, **ECHO**, & **CHORUS**. Turn up the **LEVEL** control to 5 as a starting position. Turn the **LEVEL** higher if more effect signal is desired. Use the **SELECT** and the **ADJUST** controls to get the desired effect. Move the effects **ADJUST** and **SELECT** controls to the desired effect for each channel. Each channel now has its own effects. **Smart Effects™** will automatically store your last selected effect settings for each channel and will recall them when you switch between channels. As you select each channel, notice that the **LED** next to the **LEVEL** control changes color to match the channel LED color to indicate that the effects has been changed. The settings are stored in memory even when the amp has been

turned off. To change the stored effect, simply select a new effect. **Note: The SELECT and the ADJUST controls do not rotate to their stored settings. Make note of your favorite effect settings**.

15. EFFECT PARAMETERS
Each of the four effects has two variable parameters that can be easily adjusted. The **SELECT** and **ADJUST** parameters are described below.

A) ECHO: SELECT is the amount of the regeneration (repeating). The **ADJUST** controls the delay time between the original signal and the echo.

B) REVERB: SELECT is the amount of presence (high frequencies) in the reverb. The **ADJUST** is the decay time or length of reverb.

C) CHORUS: SELECT is the level of background reverb with your chorus. The **ADJUST** control increases the depth.

D) FLANGE: SELECT is the speed of your flange. The **ADJUST** control increases the depth.

16. SX300C & SX300H ALTERNATE REVERB SYSTEM
The **REVERB SWITCH** is an alternate reverb system that is independent from the **Smart Effects™** system. By pushing in the **REVERB SWITCH**, a small amount of reverb is added to enhance your sound. The **FS44** footswitch does not externally control this reverb, which allows you to have reverb on at all times whether **Smart Effects™** are ON or OFF.

17. EFFECTS OUTPUT LEVEL CONTROL
The effects **LEVEL** control is used to set the amount of effects you want blended into your guitar. This control affects the overall effect levels including the alternate reverb system. **Note: The effects level is not controlled by the Smart Effects™ memory so you must manually change it if you need different levels between channels.**

18. POWER ON/OFF SWITCH & PILOT LIGHT (SX300C/H only)
The front power switch will turn on the power to the amplifier. The brass jeweled red pilot light illuminates when the amp is powered on.

REAR PANEL

19. INPUT B (SX300R only)
This input is the same as the front panel input. The front panel input when used will over ride the back panel input. This back panel input is great in a rack mount situation where other rack mounted gear is used in front of the **SX300R** such as wireless units, external effects, and tuners.

20. FS44 FOOTSWITCH JACK
This jack is NOT a MIDI jack. It is design for the Carvin **FS44** quad footswitch. The **FS44** will give you remote control channel switching and Smart Effects muting.

21. HEADPHONE
The stereo **HEADPHONE** 1/4" jack is "**CABINET VOICED**" to prevent excessive highs. This greatly reduces ear fatigue. On the SX300R the +4/ -10dB switch affects headphone level.

22. CABINET VOICED LINE OUT OUTPUT
The voiced 1/4" **LINE OUT** gives the same response as if you were micing the speaker. Special equalization reduces the harsh highs that are normally associated with a line out signal. **IMPORTANT: TO INSURE THAT THE SX300C DOES NOT SHUT OFF (PROTECTION MODE), PLEASE SELECTED THE PROPER SPEAKER IMPEDANCE ON THE REAR. IF YOUR SX300C/H TURNS OFF DURING A PERFORMANCE, SET THE IMPEDANCE TO 4Ω.**

Speaker		Switch Setting
1x 4Ω	-	4Ω
2x 8Ω	-	4Ω
1x 8Ω	-	8Ω
2x 16Ω	-	8Ω
1x 16Ω	-	16Ω

The following are settings to be used with Carvin cabinets loaded with Celestion speakers. Note: these settings may not be suitable for cabinets with different speakers.

AMP MODEL	CABINET	SWITCH SETTING
SX300C	Combo 2x12	8Ω
SX300C	2x12 ext. cabinet (total 4x12)	4Ω
SX300H	4x12	8Ω
SX300H	8x12	4Ω

23. SPEAKER OUTPUTS (SX300C/H only)
Both units have two 1/4" speaker output jacks and an impedance matching switch. The **SX300C** combo uses one of these jacks for the internal two **Celestion** speakers. Be sure to set this switch to the correct impedance setting when plugging in external speakers on the **SX300C**.

24. EFFECTS LOOP (SEND & RETURN) (SX300C/H ONLY)
Although the **SX300C** has built-in effects, you may want to use its separate effects loop. For the lowest noise from a pedal effect, use this effects loop instead of plugging the guitar into the effects and then into the amp. To use the **EFFECTS LOOP**, plug the input of your effects into the **SEND** jack and the output of your effects into the **RETURN** jack. Use shielded cables.
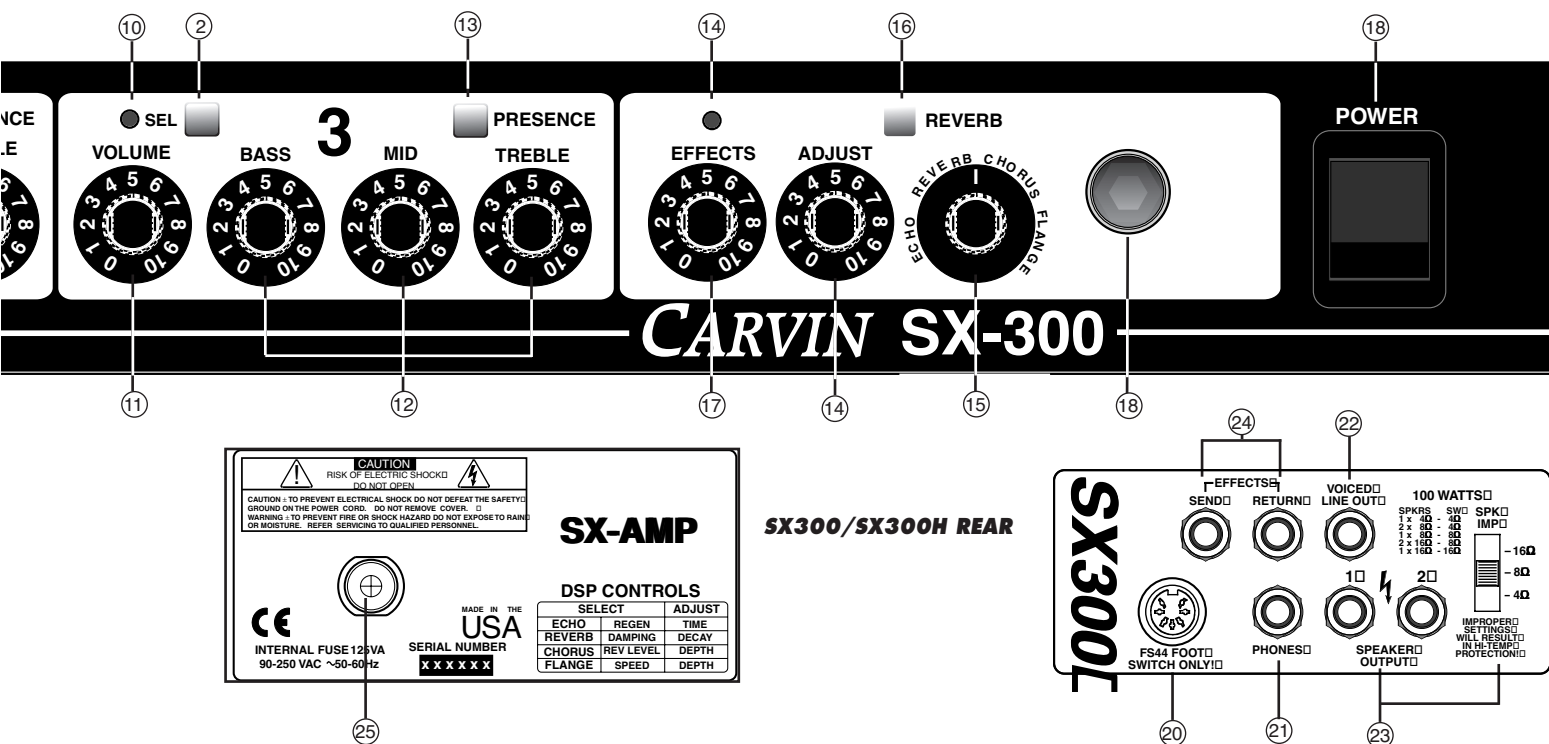
25. AC POWER & FUSE
The **SX300R** is design to operate from 90-250VAC (50 or 60 Hz). The **SX300C** combo and **SX300H** head come in 120VAC and 230VAC models for best power amp performance. All models should be plugged into a grounded "3 prong" outlet. No attempt should be made to defeat or use the amp without the ground connected. The internal **FUSE** is located inside the chassis. This is not user serviceable. Contact **Carvin's Service Department** at **800-854-2235** or **carvin.com**

26. SX300R SPEAKER EMULATOR OUTPUT DIRECT
The speaker Emulator outputs are for D.I. (Direct) connections to a PA system. These outputs are custom shaped using 4 stages of filtering to emulate a speaker cabinet that has been mic'ed. Both unbalanced 1/4" and balanced XLR are provided for any situation. The +4/-10dB switch provides a final output level adjustment. Use the +4dB setting for line level and -10dB setting for instrument level.

27. SX300R MAIN OUTPUT SECTION
These jacks are for going to the main power amplifier that is running guitar specific speakers. This output should NOT be used to go to a PA system or other system with non-guitar specific speaker cabinets. Both unbalanced 1/4" and balanced XLR are provided for any situation. If you are using an amplifier (like the Carvin DCM series), it is best to use the XLR connector for the best level and lowest noise to the amplifier. The +4dB setting is for line level and the -10dB setting is for instrument level.

HELP SECTION

1) AMP WILL NOT TURN ON
   Check the power to the amp. Check for tripped circuit breakers, unplugged extension cords or power-strip switches that may be turned off.

2) SX200/H AMP SHUTS OFF WHILE PLAYING
   Check the rear SPK IPM switch to make sure it is set properly. Switch to the 4Ω position if you are unsure where to set it. If the problem continues, contact our service technicians.

3) NO OUTPUT with POWER LIGHT ON
   Make sure that your speaker is functioning and not blown. Check input, cables & effects connected to the effects loop, and extension speaker cables for defects & connections.
   a) Also verify the effects loop is working by inserting a 1/4" stereo plug into the return jack and short the tip and ring. If the amp works by doing this, the effects loop jack is defective.

4) KEEP YOUR AMP LOOKING NEW
   Try to keep your amplifier free from dust and moisture. To clean, use a damp cloth to wipe the controls chassis panel and wipe the vinyl covering. Use a dry cloth to be sure the moisture is removed.

CAUTION
RISK OF ELECTRIC SHOCK

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL! THIS UNIT CONTAINS HIGH VOLTAGE INSIDE!

REPLACEMENT PARTS LIST

SX300C COMBO 2x12" & SX300H

COMPONENT	QTY/BILL U/M	DESCRIPTION
SX300R:		
03-00560	7 EACH	STANDOFF W/ANTI SPIN .56X.25"
03-63294	1 EACH	STANDOFF ALUM 6-32x .25x .94
05-01603	1 EACH	PWR AC 3/16AWG 8' 2" W/PLUGS
05-62420	1 EACH	CABLE RIBBON 24A 2P/ 8" W/HDR
05-64430	1 EACH	CABLE RIBBON 24A 4P/12" W/HDR
05-68430	2 EACH	CABLE RIBBON 24A 8P/12" W/HDR
06-10001	7 EACH	PPH #4 X .875 TYPE AB BLACK
06-10045	6 EACH	SMS PFH #6X .375 TYPE AB BLACK
06-10051	4 EACH	MS PFH 6-32X .250 BLACK
06-10061	1 EACH	SMS PPH #6 X .375 TYPE A BLACK
06-10133	2 EACH	SMS PPH (#8x.375) TYPE A BLK.
06-50030	4 EACH	NUT KEP #6-32 BLACK OXIDE
06-50035	1 EACH	NUT KEP #6-32 ZINC CADMIUM
07-01603	12 EACH	KNOB "6L" 6x6x17.4mm GREY CAP
07-00105B	16 EACH	KNOB SX BLACK W/WHITE NUMBERS
07-00106	1 EACH	KNOB SX BLACK W/WHITE
10-03301B	1 EACH	FRONT PANEL SX300R
10-30005	1 EACH	PANEL COVER TOPSIDE EQ/XC/XP
10-30014E	1 EACH	CHASSIS UNIVERSAL ONE SPACE
77-03301B	1 EACH	LABEL FRONT SX300R
77-03303B	1 EACH	LABEL S/N OUTPUT JACKS SX300R
80-03301	1 EACH	PCB ASSY MAIN SX300C RACK SMT PCB REV.

SX300C COMBO 2x12" & SX300H

COMPONENT	QTY/BILL U/M	DESCRIPTION
03-01200	1 EACH	STRAIN RELIEF .625 CHS/.35 CBL
03-18190	1 EACH	CABLE TIE 4"LX .10"W 7/8 BNDLE
03-21800A	2 EACH	MICA INSULATOR TO-218 0.002"
03-44319	1 EACH	WASHER NYLON .157IDx.315Dx.197
03-49553	2 EACH	TAPE W/ADHSVE 3M .375 X .375
03-52221	1 EACH	GROMMET RUBBER .375" DIAMETER
03-60043	1 EACH	SIL PAD W/ADHESIVE 9 MIL
03-77704	1 EACH	LENS METAL RED THREADED
03-80602	4 EACH	GROMMET NAT PLASTI SCRW #8/10
05-00111	1 EACH	CABLE SPKR 24" 16AWG QUICK CON
05-00120	1 EACH	CABLE SPEAKER JUMPER 150MM
05-01605	1 EACH	PWR AC 16AWG SJT 8' W/125MM ST
05-46020	1 EACH	SPADE CONNECT 16AWG BLK 203MM
05-48025	1 EACH	SPADE CONNECT 18AWG BLK 254MM
05-64410	1 EACH	CABLE RIBBON 24A 4P/ 4" W/HDR
05-64435	1 EACH	CABLE RIBBON 24A 4P/ 14" W/HDR
05-68415	1 EACH	CABLE RIBBON 24A 4P/ 6" W/HDR
05-68430	1 EACH	CABLE RIBBON 24A 8P/12" W/HDR
05-96545	1 EACH	SPADE CONNECT 16AWG GRN/YEL 5"
06-09252	15 EACH	NUT FOR POT 71-09252C
06-10070	8 EACH	MS PPH 6-32X .500 BLACK
06-10133	2 EACH	SMS PPH (#8x.375) TYPE A BLK.
06-10174	4 EACH	SMS POH #10X 1.25 TYPE A BLACK
06-11120	1 EACH	NUT METRIC 12MM KUNMING BLACK
06-11905	6 EACH	NUT METRIC 9MM CHROME SHIMWOO
06-11906	6 EACH	WSH METRIC 9MM CHROME SHIMWOO
06-30035	4 EACH	WSH FLANGED #10 BLACK OXIDE
06-40070	1 EACH	TERMINAL .25"TAB/.156"LUG/.032
06-50030	8 EACH	NUT KEP #6-32 BLACK OXIDE
06-50053	4 EACH	NUT RETAINER U-TYPE #10 SCREW
07-00105B	16 EACH	KNOB SX BLACK W/WHITE NUMBERS
07-00106	1 EACH	KNOB SX FEATURE BLACK W/WHITE
10-03201D	1 EACH	CHASSIS SX-AMP 100W 3-CHANNEL
10-03202C	1 EACH	COMBO HEAD
25-31350	1 EACH	SWITCH DPST ROCKER BLACK POWER
76-00001	1 EACH	WARRANTY CARD "CARVIN"
77-03300	1 EACH	LABEL FRONT SX300C
77-03302	1 EACH	LABEL OUTPUT JACKS SX300C
77-03204	1 EACH	LABEL SERIAL NUMBER SX AMPS
80-03300	1 EACH	PCB ASSY MAIN SX300C SMT PCB
87-20120	1 EACH	CABINET ASSY SX300C 2X12 COMBO
87-3200	1 EACH	CABINET ASSY. HEAD