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Technical Information
(1) Required power capacity

GND-Vcc 5V 4A or more
GND-(+12V)
*See the Wiring Diagram.
(2) Output
$R(r e d)$ analog. positive
G(green) analog, positive
B(blue) analog. positive
SYNC. H-V complexed, negative
(3) The monitor should be horizontally installed.
(4) There is no sound volume knob on the PCB. Sound level should be adjusted in the "GAME OPTIONS" in the Manual Test mode. (See page 3.)
(5) Handle with care.

Dip Switch Settings and Cabinets Available
This game is equipped with a 4-bit DIP SWITCH on the PCB (position 18C) : Switching a 4 -player game to a 2-player game and other changes will easily be done with this DIP switches.

|  | CONTENTS | ON | OFF |
| :---: | :--- | :---: | :---: |
| SW 1 | SOUND OUTPUT | STEREO | MONAURAL |
| SW2 | COIN MECHANISM | INDEPENDENT | COMMON |
| SW3 | NUMBER OF PLAYERS | 4-PLAYER | 2-PLAYER |
| SW4 | NOT USED. TO BE SET AT "OFF". | --- | --- |

Eample: If you are using a 4-player upright with a "multi coin mechanism", set SW2 and SW3 at "ON" (coin mechanism should be "INDEPENDENT"). If your cabinet does not have a multi coin mechanism and has only one or two coin slots, set SW2 at "OFF" (coin mechanism should be "COMMON"). In the latter case, four start buttons must be equipped.
Note: 1) A single control upright or a cocktail table type cabinet cannot be used for this game.
2) On the STEREO cabinet, set SW1 at "ON" so that you can get better music and sound effects.
3) Regarding other game options and coin options, refer to "Manual Test" on the page 3.

Control Panel Information
Use a multi or dual control panel with an 8 -way joystick and two function buttons for each player.

## P|ay Instruction

<STARTING 2-PLAYER GAME>

- 1 or 2 players can play at the same time. Second player can join in at any time.
- Choose the character you want to control out of the four individual characters: DUKE, SNAKE-EYES, SCARLETT, ROADBLOCK.
- Deposit coins and press start button, and the select screen will appear. Use joystick to select character and press SHOOT or SUPER WEAPON button to decide and start the game. <STARTING 4-PLAYER GAME>
- 1 to 4 players can play at the same time. Any player can join in at any time.
- Choose the character you want to control out of the four individual characters:

DUKE, SNAKE-EYES, SCARLETT, ROADBLOCK.

- Deposit coins, and the select screen will appear. Use joystick to select character and press SHOOT or SUPER WEAPON button to decide and start the game. When four players start to play at the same time, characters will be decided automatically.
<HOW TO PLAY>
- Move the cursor right and left using the 8-way joystick, and your character moves accordingly. Move the cursor aiming at the enemy soldiers and arms and press SHOOT button to fire at the targeted object. Aim at arms and armories and then press SUPER WEAPON button to launch a missile at the locked-on object.
-When you successfully attack the enemies, power up items will appear. Shoot or crash into them, and you can get one of the three power ups:

SUPER WEAPON ... Add one more missile. Missiles can be stored up to a maximum of 9 . RAPID FIRE... You can fire consecutively for a limited time.
FIRST-AID KIT ... Restore your energy.

- Your energy will be consumed when attacked by enemies. When it is used up, you will lose one life. The game is over when you have lost all the lives.
- There are 3 missions and each mission consists of 2 stages. When you defeat the boss enemy in each stage, you can go on to the next stage. Continuation is available as many times as you want.


## Self Test

Normal: "OK" will be displayed. Then the game will start.
Abnormal: "BAD" will be displayed and self test will repeat. If "7D BAD" is displayed, switch off and switch on again with TEST SWITCH (on the PCB) pressed.

Manual Test
(1) HOW TO START

After switching on the power, press the TEST SWITCH on the PCB or on the cabinet, and you will get the MAIN MENU of the Manual Test.
<NOTE〉 Switching on with TEST SWITCH pressed causes the program in the EEPROM to be initialized to default.
(2) HOW TO RETURN TO THE GAME MODE

Select "GAME MODE" on the MAIN MENU then press player 1 SHOOT (or START) button to return to the game mode.
(3) ITEMS AND HOW TO SELECT Use player 1 joystick to move arrow to desired test and press player 1 SHOOT (If start buttons are equipped, they also are available.) button to initiate testing. Press player 1 SHOOT (or START) button during or at the end of each test to return to the MAIN MENU.

## MAIN MENU

1/O CHECK
SCREEN CHECK
COLOR CHECK
SOUND CHECK
MASK ROM CHECK
game options
COIN OPTIONS
DIP SWITCH SETTINGS
GAME MODE
IPLAYER JOYSTICK=SELECT ITEM IPLAYER SHOOT OR START=DO CHECK
(4) EXPLANATION OF THE ITEMS

## 1. $1 / 0$ CHECK

Check all the joysticks and buttons to see " 1 " when switched on.
Press player 1 and 2 SHOOT (or START) buttons at the same time to return to MAIN MENU.
2. SCREEN CHECK

Adjust focus, alignment, size, etc. using the cross-hatch screen.
3. COLOR CHECK

Adjust color brightness so that the specified area will be colorless.
4. SOUND CHECK

When "SOUND SCALE CHECK" is selected, a music scale sounds.
At "SOUND CODE", push player 1 JOYSTICK right/left to change sound code.
5. MASK ROM CHECK

Roms will be checked one after another, and the message "OK" or "BAD" will be displayed on the screen.
6. GAME OPTIONS

Following screen will appear. Use player 1 JoYsTICK up/down to select the item and push Joystick right/left to modify setting. Factory settings are shown in green. and modified results in red. (Settings below are not always the factory settings.) After modification is completed, select "SAVE AND EXIT" and press player 1 SHOOT (or START) button to save and return to MAIN MENU.

GAME OPTIONS

| PLAYER' S LIFE | 1 CREDIT 2 LIVES |
| :--- | :--- |
| DIFFICULTY LEVEL | 4/MEDIUM |
| LOOP SETTING | GAME OVER AFTER |
| SECOND ROUND |  |
| VIDEO SCREEN FLIP | NORMAL |
| STAGE MUSIC | ON |
| SOUND IN ATTRACT MODE | ALL THE TIME |
|  |  |
| SOUND VOLUME | MIN |

FACTORY SETTINGS
SAVE AND EXIT
EXIT
IPLAYER JOYSTICK
UP/DOWN=SELECT OPTION
RIGHT/LEFT=MODIFY SETTING
*If you select "EXIT" instead of "SAVE AND EXIT" after modifying some settings, the message appears; "YOU DID NOT SAVE. DO YOU WANT TO SAVE? YES/NO". When you choose "YES", the screen shows "NOW SAVING" and returns to MAIN MENU. If you select "NO", "NO MODIFICATION" is shown and then MAIN MENU appears.

1. COIN OPTIONS
(1) When the COIN MECHANISM is set at "COMMON" on the DIP SWITCH on the PCB (SW2 is "OFF"), the screen shows following options. On the cabinet with two coin slots, coin setting must be done for each coin slot.

(2) When the COIN MECHANISM is set at "INDEPENDENT" on the DIP SWITCH on the PCB (SW2 is "ON"), the left coin slot will be for player 1 , the right one for player 2. On this setting, "PREMIUM START" setting is available; you can set the play fee for
starting higher than the play fee for continuation (2 coin start and 1 coin continue. for example).


When you want "PREMIUM START" setting, choose the number of extra coins necessary for starting, then decide the coin setting for continuation. The number of coins for starting will be the sum of both numbers. If you do not set premium start, the number of coins necessary for starting and continuation will be the same. *COIN SETTING OPTIONS

| COIN (S) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| CREDIT $(S)$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 3 | 5 | 1 | 2 | 4 | 1 | 3 | 5 |

## 8. DIP SWITCH SETTINGS

The present settings will be shown on the screen. To modify settings, turn ON/OFF the actual DIP switches on the PCB (position 18C). After modifying the settings, press player 1 SHOOT (or START) to return to the MAIN MENU and then select "GAME MODE" to start the game on the revised settings.
<EXAMPLE>

## DIP SWITCH SETTINGS



ON TO MODIFY SETTINGS. OFF OPERATE THE RELEVANT DIP SWITCH ON THE PCB.

SWI SOUND OUTPUT
SW2 COIN MECHANISM
SW3 NUMBER OF PLAYERS
SW4 -----

IPLAYER START OR SHOOT BUTTON = EXIT

