

ATTENTION!

The manufacturer reserves the right to minor deviations in components, and circuit design changes while maintaining the product's compliance with technical specifications.

1. PURPOSE

Effects block for musical instruments (preamplifier "Spectrum-1") passport 3,839,000 is designed for use with power amplifiers and gives the sound of electric guitars and other electric instruments an unusual color, and allows you to obtain the following effects: vibrato, fuzz (2 types) and wah, as well as any combinations thereof.

2. TECHNICAL CHARACTERISTICS

2.1. Power source is provided by two 9V batteries or an external power source with a voltage of 9 V. Current consumption is no more than 5 mA from each battery.

2.2. The level limiter must limit a sinusoidal signal with a frequency of 800 Hz, a voltage from 800 uV to 100 mV, applied to the preamplifier input to rectangular pulses with an amplitude of 50 +/- 8 mV at the preamplifier test point, introduced to the 5th terminal of the input jack.

2.3. The depth of amplitude modulation of the signal at the preamplifier output with vibrato unit turned on and with a signal voltage of at least 50 mV must be at least 50% at a frequency of 1500 Hz.

2.4. An increase in the frequency response at the resonant frequency of a variable-frequency-dependent amplifier of at least 15 dB relative to a frequency 10 times lower and 10 times higher than resonant frequency in the frequency range from 700 to 1200 Hz.

2.5 The voltage at the 5th test point of the preamplifier when the voltage at its input is from 0 to 200 uV should not exceed 1 mV.

2.6. The noise voltage at the preamplifier output is no more than 50 dB with an equivalent input of 100 kohm.

2.7. Information on the content of precious metals is given in Table 1.

Таблица

Наимен., Обозн.	Сборочные едн., комплексы, комплекты.		Масса в 1 шт.	Масса в изд. Номер акта
	Обозначение	К-во		
Золото Диоды Д220 Д814Б КС168А	6. 120. 015	1	0, 00058	0, 00116
	6. 120. 015	1	0, 001102	0, 04408
	6. 120. 015	1	0, 001102	0, 001102
Транзисторы П416Б КТ315Б	6. 120. 015	1	0, 000081	0, 000405
	6. 120. 015	1	0, 00081	0, 00243 0, 049177
Серебро Резисторы МЛТ-0, 5 ЛЗ-1а ЛП-126	6. 120. 015	1	0, 010362	0, 455928
	6. 120. 015	1	0, 0199	0, 0556
	6. 120. 015	1	0, 000601	0, 000601 0, 512229

Table 1

3. DELIVERY SET

Effects block for electric musical instruments (Preamplifier "Spectrum 1")
Connecting cord 6.640/147
Resistor SPZ-12-10kOhm-V-32-OS-3
Passport 3,839,000 PS

4. DEVICE AND PRINCIPLE OF OPERATION OF THE PREAMPLIFIER

4.1. The Spectrum 1 preamplifier is an electronic device assembled with 12 transistors. The schematic diagram of the preamplifier is shown in Fig. 1.

4.2. The emitter follower on transistor V1 increases the input impedance of the preamplifier and reduces the influence of interference and interference on the connecting cord. The DC amplifier is assembled using transistors V3 & V5; spectrum converter - on transistor V8; variable-frequency-dependent amplifier - on transistors V16 & V17. Preliminary amplifier - on transistor V4; vibratone generator on transistors V14, V15 and V18; mixer - on diodes V7 & V9.

4.3. The entire preamplifier circuit is enclosed in a durable cast housing on which structural elements are attached; a circuit board, switches, micro-switches, buttons, a battery sector and a potentiometer, as well as keys, a control lever and control lever lock. All circuit elements are connected to each other by wires tied into a bundle. The bottom cover is screwed to the housing and protects the preamplifier elements from mechanical stress and damage.

4.4. On the side surface of the preamplifier there are (see Fig. 2): a socket for connecting external power supplies (Item 1), a socket for connecting a cord (Item 2), which connects the preamplifier to the power amplifier; a socket for connecting the cord from an electric guitar or other electric musical instrument (Item 3); preamplifier switch off button (Item 4).

4.5. On the left side surface of the preamplifier there is a vibrato unit switch (Item 6).

4.6. On the upper plane of the preamplifier (Fig. 2) there are: switching keys for the spectrum converter and level limiter, various types of fuzz effect (Item 8); control lever for the frequency-dependent amplifier to obtain the wah effect (Item 5); control lever lock (Item 9).

5. PREPARING FOR OPERATION

5.1. Read this passport.

5.2. Check the serviceability of the preamplifier visually.

5.3. Connect the connecting cords by connecting the output jack of the preamplifier to the power amplifier (Fig. 2, Item 2), and the output jack (Fig. 2, Item 3) to an electric guitar or other electric musical instrument, first making sure that the wiring on the plug complies with domestic standards.

5.4. Turn on the power by pressing the button (Fig. 2, Item 4). When using external power sources, plug into socket (Fig. 2, Item 1).

ATTENTION! To power the preamplifier circuit, two 9 V batteries are used, and are not connected to each other in the circuit. For high quality operation of the preamplifier and to avoid its failure, the following conditions must be observed: the external power source of the preamplifier must have two voltages of 9 V each, not electrically connected to each other; external power source, as well as the wire connecting it to the amplifier, must be shielded. When fed from a rectifier attachment, it should produce two independent stabilized voltages of 9 V with a ripple of no more than 10 mV at a current of 10 mA. The power amplifier to which the preamplifier is connected must be grounded.

5.5. Play the loudest register on the guitar, which contains both low and high frequencies, and turn the knob to full volume. Press the key (Fig. 2, Item 8) and insert screwdriver into the hole (Fig. 3, Item 2) on the bottom cover of the preamplifier and turning the trimming potentiometer with the screwdriver, set the desired volume when playing with the fuzz effect. The signal limiting threshold, i.e. the duration of the sound of an electric musical instrument, is regulated by a potentiometer located under the hole (Fig. 3, Item 1). When using the fuzz effect: to obtain a longer sound, it is recommended to play with a pick without twisting the strings, striking them as close to the fretboard as possible, softly and energetically.

5.6. Unlock the control lever by moving the slide lock mechanism (Fig. 2, Item 9) in the direction of the arrow. For getting the wah effect, you need to press the control lever with your foot when playing. The amplitude of the output signal of the wah effect block is regulated by a potentiometer under the hole (Fig. 3, Item 3), and the amount of frequency response rise is regulated by a potentiometer under the hole (Fig. 3, Item).

6. MAINTANENCE

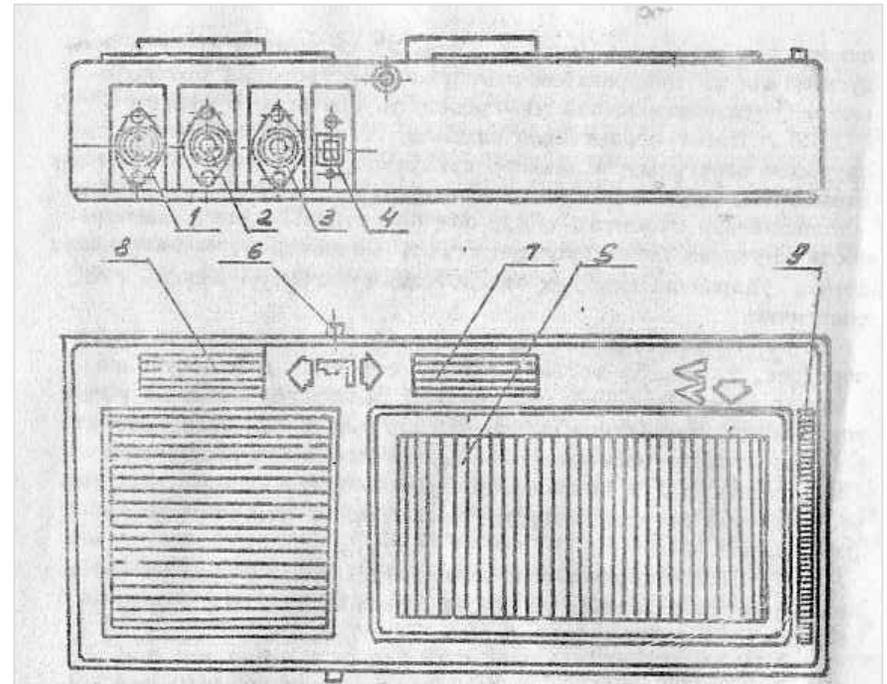
6.1. Maintenance increases the life of the preamplifier, therefore it is necessary to keep it in good working order and for use.

6.2. Replace batteries in the preamplifier promptly "Krona V1", do not allow them to become completely depleted, as this can lead to electrolyte leaking out of them and impair the serviceability of the circuit.

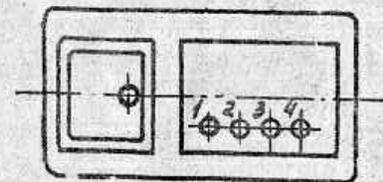
6.3. Don't get carried away with the wah effect. Please note that the potentiometer wears out and after 125,000 cycles of the control lever, strange sounds and noises may appear. In this case, the potentiometer must be replaced.

6.4. Protect the preamplifier from shock.

6.5. During breaks in the game and at the end of the concert, do not forget to turn the power off to the preamplifier - this will increase battery life.



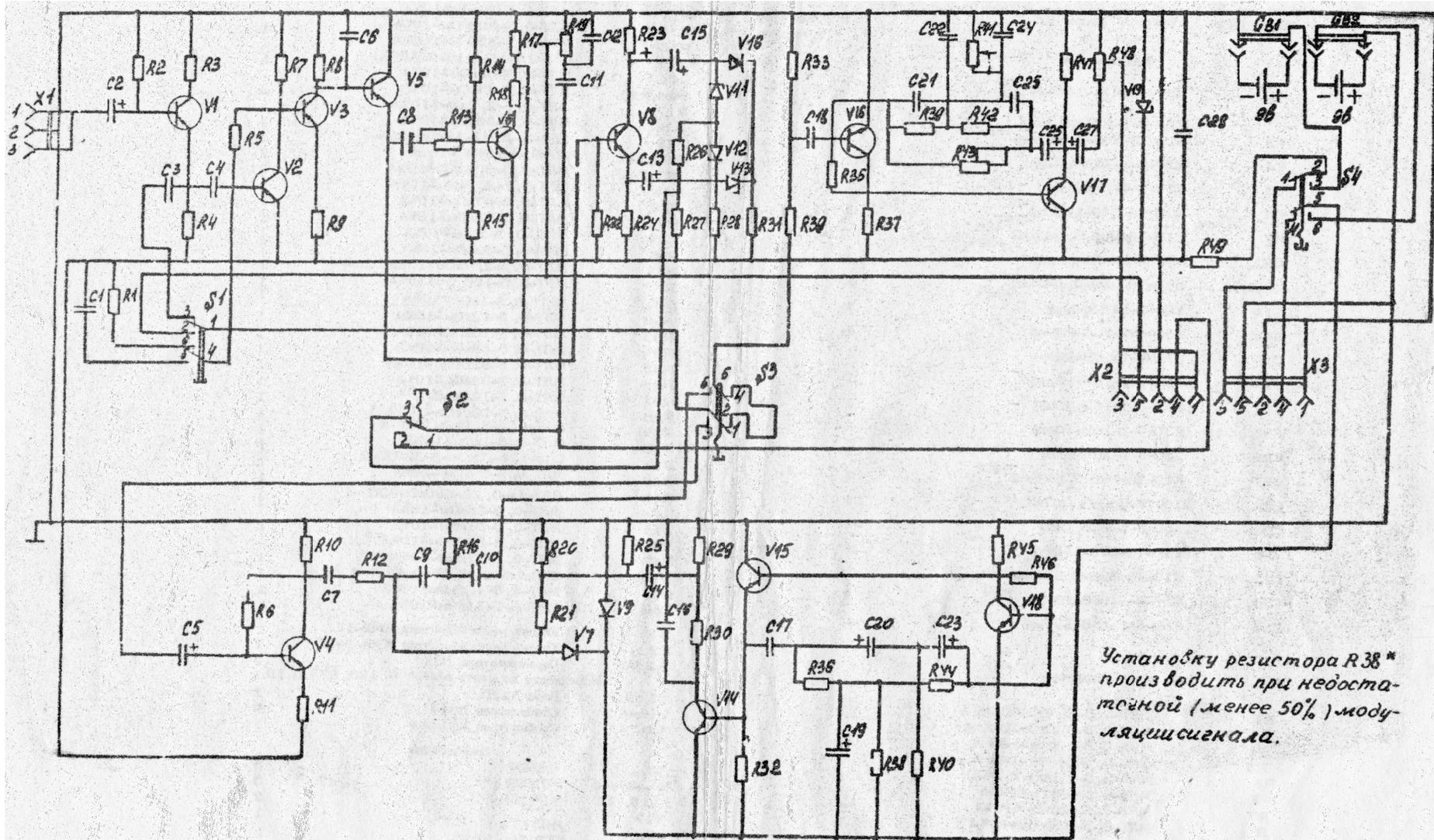
(Fig. 2) Рис. 2. Общий вид предусилителя



(Fig. 3) Рис. 3. Предусилитель (вид снизу)

ПЕРЕЧЕНЬ ЭЛЕМЕНТОВ К СХЕМЕ ЭЛЕКТРИЧЕСКОЙ ПРИНЦИПАЛЬНОЙ

GB1, GB2	Батарея "Крона ВЦ"	2	Используется при регулировке	R10	МЛТ-0, 5-10кОм±10%А	1
	Конденсаторы			R11	МЛТ-0, 5-390 Ом±10%А	1
C1	K10-7B-H7C-1500пф ⁺⁸⁰ -20%	1		R12	МЛТ-0, 5-820 Ом±10%А	1
C2	K50-6-1-16B-10 мкф	1		R13	СПЗ-1а-0, 25-15кОм±20%-1	1
C3	K10-7B-H90-0, 047мкф ⁺⁸⁰ -20%	1		R14	МЛТ-0, 5-62кОм±10%А	1
C4	K50-6-1-16B-10мкф	1		R15, R16	МЛТ-0, 5-33кОм±10%А	2
C5	K50-6-1-16B-5мкф	1		R17	МЛТ-0, 5-2, 2кОм±10%А	1
C6	K10-7B-H70-1500пф ⁺⁸⁰ -20%	1		R18	МЛТ-0, 5-33кОм±10%А	1
C7	K10-7B-H90-0, 047мкф ⁺⁸⁰ -20%	1		R19	СПЗ-1а-0, 25-15кОм±20%-1	1
C8	K50-6-1-16B-10мкф	1		R20, R21	МЛТ-0, 5-18кОм±10%А	2
C9, C12	K10-7B-H90-0, 047мкф ⁺⁸⁰ -20%	4		R22, R23	МЛТ-0, 5-6, 2кОм±10%А	2
C13	K50-6-1-16B-5мкф	1		R24	МЛТ-0, 5-3, 9кОм±10%А	1
C14	K50-6-1-16B-20мкф	1		R25	МЛТ-0, 5-57кОм±10%А	1
C15	K50-6-1-16B-5мкф	1		R26	МЛТ-0, 5-33кОм±10%А	1
C16	K50-6-1-16B-10мкф	1		R27	МЛТ-0, 5-3кОм±10%А	1
C17	K50-6-1-16B-20мкф	1		R28	МЛТ-0, 5-33кОм±10%А	1
C18, C19	K50-6-1-16B-10мкф	2		R29	МЛТ-0, 5-2, 7кОм±10%А	1
C20	K50-6-1-25B-1мкф	1		R30	МЛТ-0, 5-100 Ом±10%А	1
C21	K10-7B-H90-0, 022мкф ⁺⁸⁰ -20%	1		R31	МЛТ-0, 5-1кОм±10%А	1
C22	K10-7B-H90-0, 047мкф ⁺⁸⁰ -20%	1		R32	МЛТ-0, 5-12кОм±10%А	1
C23	K50-6-1-25B-1мкф	1		R33	МЛТ-0, 5-10кОм±10%А	1
C24	K10-7B-H70-1500пф ⁺⁸⁰ -20%	1		R34	МЛТ-0, 5-33кОм±10%А	1
C25	K10-7B-H90-0, 022мкф ⁺⁸⁰ -20%	1		R35	МЛТ-0, 5-820кОм±10%А	1
C26, C27	K50-6-1-16B-10мкф	2		R36	МЛТ-0, 5-33кОм±10%А	1
C28	K50-6-1-16B-100мкф	1		R37	МЛТ-0, 5-12кОм±10%	1
	Резисторы			R38	МЛТ-0, 5-100кОм±10%А	1
R1	МЛТ-0, 5-3, 9кОм±10% А	1		R39	МЛТ-0, 5-3, 9кОм±10%А	1
R2	МЛТ-0, 5-320кОм±10% А	1		R40	МЛТ-0, 5-1кОм±10%А	1
R4	МЛТ-0, 5-10кОм±10% А	1		R41	СПЗ-12Б-10кОм-В-32-0С-3	1
R5	МЛТ-0, 5-51кОм±10% А	1		R42	МЛТ-0, 5-39кОм±10%А	1
R6	МЛТ-0, 5-270кОм±10%А	1		R43	СПЗ-1а-0, 25-680кОм±20%-1	1
R7	МЛТ-0, 5-47кОм±10%А	1		R44	МЛТ-0, 5-33кОм±10%А	1
R8	МЛТ-0, 5-20кОм±10%А	1		R45	МЛТ-0, 5-51кОм±10%А	1
R9	МЛТ-0, 5-820 Ом±10%А	1		R46	МЛТ-0, 5-820кОм±10%А	1
				R47	МЛТ-0, 5-12кОм±10%А	1
				R48	СПЗ-1а-0, 25-15кОм±20%-1	1
				R49	МЛТ-0, 5-1, 3кОм±10%А	1
				R50	МЛТ-0, 5-51кОм±10%А	1
				S1	Кнопка малогабаритная КМ2-1	1
				S2	Кнопка малогабаритная КМА-1-1У	1
				S3, S4	Переключатель П2К	2
				Исполнение по карте заказа 6. 123. 675 Д 10		
				V7, V9	Диод Д220	2
				V10, V13	Стабилитрон Д814	4
				V19	Стабилитрон КС168А	1
				Транзисторы		
				V1, V5	П416Б	5
				V6, V8, V14	МП25Б	3
				V15, V16	КТ315Б	2
				V17	МП37Б	1
				V18	КТ315Б	1
				X1	Розетка СГЗ	1
				X2, X3	Розетка СГ5	2



Установку резистора R38*
производить при недоста-
точной (менее 50%) моду-
ляци сигнала.

(Fig. 1) Рис. 1

СХЕМА ЭЛЕКТРИЧЕСКАЯ ПРИНЦИПИАЛЬНАЯ 3. 836. 000 ПС

7. СВИДЕТЕЛЬСТВО О ПРИЕМКЕ

Предусилитель "Спектр 1" соответствует ТУ 25-01-866-75 и признан годным для эксплуатации.

Заводской номер 95694
Дата выпуска 21.08.80 198/2

Штамп ОТК



Цена 58 руб.

Дата продажи магазином _____
Изготовитель: з-д УВМ, г. Орел, 302025.

8. ГАРАНТИЙНЫЕ ОБЯЗАТЕЛЬСТВА

При соблюдении всех требований настоящего документа завод-изготовитель гарантирует исправную работу в течение 12 месяцев со дня продажи. Гарантия не распространяется на потенциометр, который допускает 125000 нажатий на рычаг управления. В случае выхода изделия из строя следует обращаться в мастерские по ремонту бытовой электротехники, Министерства бытового обслуживания или на завод-изготовитель.

Помните, что нарушение заводской пломбы лишает Вас права на гарантийный ремонт.

7. CERTIFICATE OF ACCEPTANCE

Preamplifier "Spectrum 1" complies with TU 25-01-866-75 and is recognized as suitable for use.

Serial number _____
Release date _____

Stamp OTH



Price 58 Rubles

Store sale date _____

Manufacturer: UVM Plant, Orel, 302025

8. WARRANTY

If all requirements of this document are met, the manufacturer guarantees proper operation for 12 months from the date of sale. The warranty does not cover the potentiometer, which allows for 125,000 cycles of the control lever. If the product fails, you should contact repair shops for household electrical and radio equipment, the Ministry of Consumer Services or the manufacturer.

Remember that breaking the factory seal deprives you of rights to warranty repairs.

